

102.5 - Copper "Benchmark" (block, chip and rod forms)

SRMs with a "C" prefix are chill-cast blocks approximately 32 mm square and 19 mm thick.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

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SRM	Description	Unit of Issue	Aluminum (Al)	Antimony (Sb)	Arsenic (As)	Bismuth (Bi)	Cadmium (Cd)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Gold (Au)	Iron (Fe)	Lead (Pb)	Magnesium (Mg)	Manganese (Mn)	Nickel (Ni)	Oxygen (O)
399	Unalloyed Copper - Cu VI	50 g	(<i><2</i>)	30	47	10.5	(<i><1</i>)	(0.5)	0.5	99.79*	(4)	20.0	114	(<i><1</i>)	(0.3)	506	
454	Unalloyed Copper XI (chips)	35 g		24	46	19			(4)	99.84*	7.5	(50)	66			(150)	
457	Unalloyed Copper IV (solid)	rod		0.214	(<i><2</i>)	0.22	(<i><1</i>)	(<i><2</i>)	0.227	99.97*	(<i><0.05</i>)	2.4	0.512	(<i><1</i>)	(<i><0.1</i>)	0.67	367
494	Unalloyed Copper I (solid)	rod	(<i><2</i>)	4.5	2.6	0.35	(0.5)	2.0	0.5	99.908*	(0.07)	147	26.5	(<i><1</i>)	3.7	11.7	
495	Unalloyed Copper II (solid)	rod	(<i><2</i>)	8.0	1.6	0.50	(0.4)	6.0		99.944*	(0.13)	96	3.25	(<i><1</i>)	5.3	5.4	
498	Unalloyed Copper V (solid)	rod	(<i><2</i>)	7.4	25	2.0	(<i><22</i>)	(0.3)	2.7	99.98*	(0.1)	11	10	(<i><1</i>)	(0.3)	7.0	
500	Unalloyed Copper - Cu VII	rod	(<i><2</i>)	102	140	24.5	(<i><1</i>)	(0.5)	0.6	99.70*	(10)	41	128	(<i><1</i>)	(0.2)	603	
C1251a	Phosphorus Deoxidized Copper - Cu VIII	block	(<i><20</i>)	14.9	16	3.7	(<i><3</i>)	(3)	13.2	99.89*	15.5	285	23.5	(<i><20</i>)	4.6	23.6	
C1252a	Phosphorus Deoxidized Copper - Cu IX	block	(<i><20</i>)	42	118	(19)	16.9	19	87	99.87*	33.9	72	60	(<i><20</i>)	43	128	
C1253a	Phosphorus Deoxidized Copper - Cu X	block	176	139	436	(56)	70	260	454	99.46*	72	290	243	(150)	357	491	

* Mass fraction in %

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SRM	Description	Unit of Issue	Palladium (Pd)	Phosphorus (P)	Selenium (Se)	Silicon (Si)	Silver (Ag)	Sulfur (S)	Tellurium (Te)	Tin (Sn)	Titanium (Ti)	Zinc (Zn)
399	Unalloyed Copper - Cu VI	50 g			95	(<2)	117	(10)	50	(~90)		45
454	Unalloyed Copper XI (chips)	35 g	(0.1)		479		286		27	2.2		7
457	Unalloyed Copper IV (solid)	rod			4.05	(<1)	8.086	4	0.296	(<0.1)	(<1)	(<3)
494	Unalloyed Copper I (solid)	rod			2.00	(<2)	50.5	15	0.58	70		405
495	Unalloyed Copper II (solid)	rod			0.63	(<2)	12.2	13	0.32	1.5		12.2
498	Unalloyed Copper V (solid)	rod			17.5	(<2)	20.1	(11)	10.1	5		25
500	Unalloyed Copper - Cu VII	rod			214	(<2)	181	(9)	153	(~200)		114
C1251a	Phosphorus Deoxidized Copper - Cu VIII	block		420	11	(<50)	80	(35)	16	16		24
C1252a	Phosphorus Deoxidized Copper - Cu IX	block		125	56	(<100)	158	(70)	54.6	120		69.4
C1253a	Phosphorus Deoxidized Copper - Cu X	block		561	136	(580)	494	(50)	168	499		329

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